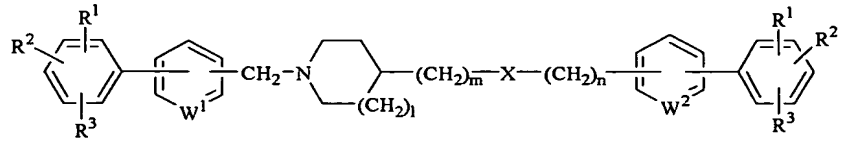
CLAIMS

1. A preventive or therapeutic agent for pathological conditions caused by reduced production of erythropoietin, comprising as an active ingredient, a cyclic amine compound represented by the following formula (1):



(1)

wherein,

R^1, R^2 and R^3 each independently represent a hydrogen atom, a halogen atom, or hydroxy, alkyl, halogen-substituted alkyl, alkoxy, alkylthio, carboxyl, alkoxycarbonyl or alkanoyl group;

W^1 and W^2 each independently represent N or CH;

X represents O, NR^4, $CONR^4$ or NR^4CO;

R^4 each represents a hydrogen atom, or an alkyl, alkenyl, alkynyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl; substituted or unsubstituted aralkyl, or substituted or unsubstituted heteroaralkyl group; and

l, m and n each represents a number of 0 or 1, or a salt thereof or a solvate thereof.

2. The preventive or therapeutic agent according to claim 1, wherein R^1, R^2 and R^3 are each a hydrogen atom, a halogen atom, a hydroxy group, a C_1-C_8-alkyl group, a halogen-substituted C_1-C_8-alkyl, an alkoxy group having a C_1-C_8-alkyl group, an alkylthio group having a C_1-C_8-alkyl group, a carboxyl group, an alkoxycarbonyl group having a C_1-C_6-alkyl group, or an alkanoyl group having a C_1-C_6-alkyl group.

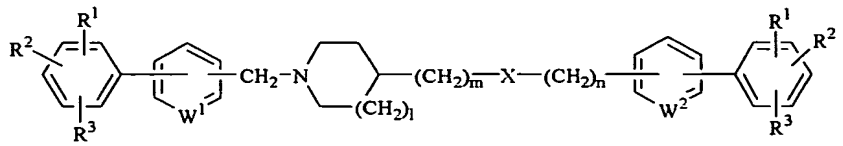
3. The preventive or therapeutic agent according to claim 1, wherein R^4 each represents a hydrogen atom, a C_1-C_8-alkyl group, C_3-C_8-alkenyl group, C_3-C_8-alkynyl group,

substituted or unsubstituted C_6-C_{14}-aryl group, substituted or unsubstituted heteroaryl group having 5- or 6-membered ring containing 1-4 nitrogen atoms, substituted or unsubstituted C_6-C_{14}-aryl-C_1-C_6-alkyl group, or C_1-C_6-alkyl group having heteroaryl group having 5- or 6-membered ring containing 1-4 nitrogen atoms.

4. The preventive or therapeutic agent according to claim 3, wherein in R^4, the substituent of an aryl group, an aryl group of aralkyl group, heteroaryl group, or heteroaryl group of heteroaralkyl group is 1-3 groups selected from the group consisting of alkyl group, alkoxy group, alkylthio group, a halogen atom, a nitro group, an amino group, an acetylamino group, trifluoromethyl group and alkylenedioxy group.

5. The preventive or therapeutic agent according to claim 1, wherein the active ingredient is
4-[N-(4-methoxyphenyl)-N-[[5-(3,4,5-trimethoxyphenyl)pyridine-3-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)pyridine-4-yl]methyl]piperidine;
4-[N-(3,5-dimethoxyphenyl)-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;
4-[N-(3,4-methylenedioxyphenyl)-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;
4-[N-methyl-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;
4-[N-(4-(methylthio)phenyl)-N-[[5-(3,4,5-tromethoxyphenyl)piridine-3-yl]methyl]amino]-1-[[2-(3,4,5-tromethoxyphenyl)piridine-4-yl]methyl]piperidine; or a salt thereof.

6. A preventive or therapeutic agent for anemia, comprising as an active ingredient, a cyclic amine compound represented by the following formula (1):



(I)

wherein,

R^1, R^2 and R^3 each independently represent a hydrogen atom, a halogen atom, or hydroxy, alkyl, halogen-substituted alkyl, alkoxy, alkylthio, carboxyl, alkoxycarbonyl or alkanoyl group;

W^1 and W^2 each independently represent N or CH;

X represents O, NR^4, $CONR^4$ or NR^4CO;

R^4 each represents a hydrogen atom, or an alkyl, alkenyl, alkynyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, substituted or unsubstituted aralkyl, or substituted or unsubstituted heteroaralkyl group; and

l, m and n each represents a number of 0 or 1, or a salt thereof or a solvate thereof.

7. The preventive or therapeutic agent according to claim 6, wherein R^1, R^2 and R^3 are each a hydrogen atom, a halogen atom, a hydroxy group, a C_1-C_8-alkyl group, a halogen-substituted C_1-C_8-alkyl, an alkoxy group having a C_1-C_8-alkyl group, an alkylthio group having a C_1-C_8-alkyl group, a carboxyl group, an alkoxycarbonyl group having a C_1-C_6-alkyl group, or an alkanoyl group having a C_1-C_6-alkyl group.

8. The preventive or therapeutic agent according to claim 6, wherein R^4 each represents a hydrogen atom, a C_1-C_8-alkyl group, C_3-C_8-alkenyl group, C_3-C_8-alkynyl group, substituted or unsubstituted C_6-C_{14}-aryl group, substituted or unsubstituted heteroaryl group having 5- or 6-membered ring containing 1-4 nitrogen atoms, substituted or unsubstituted C_6-C_{14}-aryl-C_1-C_6-alkyl group, or C_1-C_6-alkyl group having heteroaryl group having 5- or 6-membered ring containing 1-4 nitrogen atoms.

9. The preventive or therapeutic agent according to claim 8, wherein in R^4, the substituent of an aryl group, an aryl group of aralkyl group, heteroaryl group, or heteroaryl group of heteroaralkyl group is 1-3 groups selected from the group consisting of alkyl group, alkoxy group, alkylthio group, a halogen atom, a nitro group, an amino group, an acetylamino group, trifluoromethyl group and alkylenedioxy group.

10. The preventive or therapeutic agent according to claim 6, wherein the active ingredient is

4-[N-(4-methoxyphenyl)-N-[[5-(3,4,5-trimethoxyphenyl)pyridine-3-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)pyridine-4-yl]methyl]piperidine;

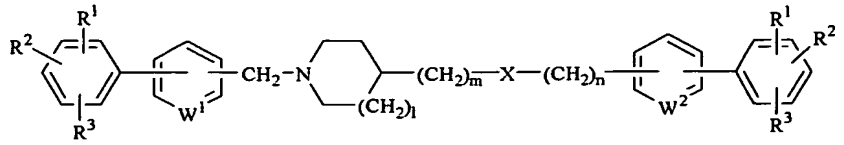
4-[N-(3,5-dimethoxyphenyl)-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;

4-[N-(3,4-methylenedioxyphenyl)-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;

4-[N-methyl-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;

4-[N-(4-(methylthio)phenyl)-N-[[5-(3,4,5-tromethoxyphenyl)piridine-3-yl]methyl]amino]-1-[[2-(3,4,5-tromethoxyphenyl)piridine-4-yl]methyl]piperidine; or a salt thereof.

11. A preventive or therapeutic agent for chronic anemia, renal anemia, anaplastic anemia or pure red cell aplasia, comprising as an active ingredient, a cyclic amine compound represented by the following formula (1):



(1)

wherein,

R^1, R^2 and R^3 each independently represent a hydrogen atom, a halogen atom, or hydroxy, alkyl, halogen-substituted alkyl, alkoxy, alkylthio, carboxyl, alkoxycarbonyl or alkanoyl group;

W^1 and W^2 each independently represent N or CH;

X represents O, NR^4, $CONR^4$ or NR^4CO;

R^4 each represents a hydrogen atom, or an alkyl, alkenyl, alkynyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, substituted or unsubstituted aralkyl, or substituted or unsubstituted heteroaralkyl group; and

l, m and n each represents a number of 0 or 1, or a salt thereof or a solvate thereof.

12. The preventive or therapeutic agent according to claim 11, wherein R^1, R^2 and R^3 are each a hydrogen atom, a halogen atom, a hydroxy group, a C_1-C_8-alkyl group, a halogen-substituted C_1-C_8-alkyl, an alkoxy group having a C_1-C_8-alkyl group, an alkylthio group having a C_1-C_8-alkyl group, a carboxyl group, an alkoxycarbonyl group having a C_1-C_6-alkyl group, or an alkanoyl group having a C_1-C_6-alkyl group.

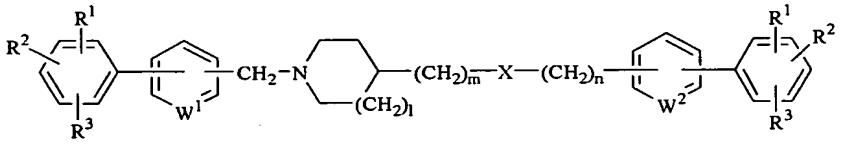
13. The preventive or therapeutic agent according to claim 11, wherein R^4 each represents a hydrogen atom, a C_1-C_8-alkyl group, C_3-C_8-alkenyl group, C_3-C_8-alkynyl group, substituted or unsubstituted C_6-C_{14}-aryl group, substituted or unsubstituted heteroaryl group having 5- or 6-membered ring containing 1-4 nitrogen atoms, substituted or unsubstituted C_6-C_{14}-aryl-C_1-C_6-alkyl group, or C_1-C_6-alkyl group having heteroaryl group having 5- or 6-membered ring containing 1-4 nitrogen atoms.

14. The preventive or therapeutic agent according to claim 13, wherein in R^4, the substituent of an aryl group, an aryl group of aralkyl group, heteroaryl group, or heteroaryl group of heteroaralkyl group is 1-3 groups selected from the group consisting of alkyl group, alkoxy group, alkylthio group, a halogen atom, a nitro group,

an amino group, an acetylamino group, trifluoromethyl group and alkylenedioxy group.

15. The preventive or therapeutic agent according to claim 11, wherein the active ingredient is
4-[N-(4-methoxyphenyl)-N-[[5-(3,4,5-trimethoxyphenyl)pyridine-3-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)pyridine-4-yl]methyl]piperidine;
4-[N-(3,5-dimethoxyphenyl)-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;
4-[N-(3,4-methylenedioxyphenyl)-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;
4-[N-methyl-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;
4-[N-(4-(methylthio)phenyl)-N-[[5-(3,4,5-tromethoxyphenyl)piridine-3-yl]methyl]amino]-1-[[2-(3,4,5-tromethoxyphenyl)piridine-4-yl]methyl]piperidine; or a salt thereof.

16. Use of a cyclic amine compound represented by the following formula (1):



(1)

wherein,

R^1, R^2 and R^3 each independently represent a hydrogen atom, a halogen atom, or hydroxy, alkyl, halogen-substituted alkyl, alkoxy, alkylthio, carboxyl, alkoxycarbonyl or alkanoyl group;

W^1 and W^2 each independently represent N or CH;

X represents O, NR^4, $CONR^4$ or NR^4CO;

R^4 each represents a hydrogen atom, or an alkyl, alkenyl, alkynyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, substituted or unsubstituted aralkyl, or substituted or unsubstituted heteroaralkyl group; and

l, m and n each represents a number of 0 or 1, or a salt thereof or a solvate thereof for the manufacture of a preventive or therapeutic agent for pathological conditions caused by reduced production of erythropoietin.

17. The use according to claim 16, wherein R^1, R^2 and R^3 are each a hydrogen atom, a halogen atom, a hydroxy group, a C_1-C_8-alkyl group, a halogen-substituted C_1-C_8-alkyl, an alkoxy group having a C_1-C_8-alkyl group, an alkylthio group having a C_1-C_8-alkyl group, a carboxyl group, an alkoxycarbonyl group having a C_1-C_6-alkyl group, or an alkanoyl group having a C_1-C_6-alkyl group.

18. The use according to claim 16, wherein R^4 each represents a hydrogen atom, a C_1-C_8-alkyl group, C_3-C_8-alkenyl group, C_3-C_8-alkynyl group, substituted or unsubstituted C_6-C_{14}-aryl group, substituted or unsubstituted heteroaryl group having 5- or 6-membered ring containing 1-4 nitrogen atoms, substituted or unsubstituted C_6-C_{14}-aryl-C_1-C_6-alkyl group, or C_1-C_6-alkyl group having heteroaryl group having 5- or 6-membered ring containing 1-4 nitrogen atoms.

19. The use according to claim 18, wherein in R^4, the substituent of an aryl group, an aryl group of aralkyl group, heteroaryl group, or heteroaryl group of heteroaralkyl group is 1-3 groups selected from the group consisting of alkyl group, alkoxy group, alkylthio group, a halogen atom, a nitro group, an amino group, an acetylamino group, trifluoromethyl group and alkylenedioxy group.

20. The use according to claim 16, wherein the active ingredient is 4-[N-(4-methoxyphenyl)-N-[[5-(3,4,5'-trimethoxyphenyl)pyridine-3-yl]methyl]amino]

-1-[[2-(3,4,5-trimethoxyphenyl)pyridine-4-yl]methyl]piperidine;

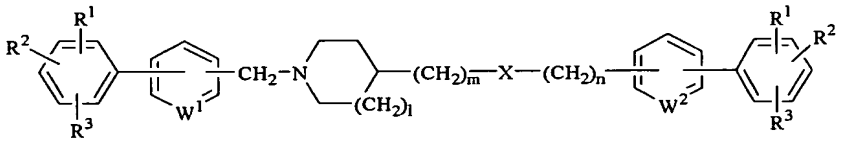
4-[N-(3,5-dimethoxyphenyl)-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl] amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;

4-[N-(3,4-methylenedioxyphenyl)-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl] methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;

4-[N-methyl-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;

4-[N-(4-(methylthio)phenyl)-N-[[5-(3,4,5-tromethoxyphenyl)piridine-3-yl]methyl] amino]-1-[[2-(3,4,5-tromethoxyphenyl)piridine-4-yl]methyl]piperidine; or a salt thereof.

21. Use of a cyclic amine compound represented by the following formula (1):



(1)

wherein,

R^1, R^2 and R^3 each independently represent a hydrogen atom, a halogen atom, or hydroxy, alkyl, halogen-substituted alkyl, alkoxy, alkylthio, carboxyl, alkoxycarbonyl or alkanoyl group;

W^1 and W^2 each independently represent N or CH;

X represents O, NR^4, $CONR^4$ or NR^4CO;

R^4 each represents a hydrogen atom, or an alkyl, alkenyl, alkynyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, substituted or unsubstituted aralkyl, or substituted or unsubstituted heteroaralkyl group; and

l, m and n each represents a number of 0 or 1, or a salt thereof or a solvate thereof for the manufacture of a preventive or therapeutic agent for anemia.

22. The use according to claim 21, wherein R^1, R^2 and R^3 are each a hydrogen atom, a halogen atom, a hydroxy group, a C_1-C_8-alkyl group, a halogen-substituted C_1-C_8-alkyl, an alkoxy group having a C_1-C_8-alkyl group, an alkylthio group having a C_1-C_8-alkyl group, a carboxyl group, an alkoxycarbonyl group having a C_1-C_6-alkyl group, or an alkanoyl group having a C_1-C_6-alkyl group.

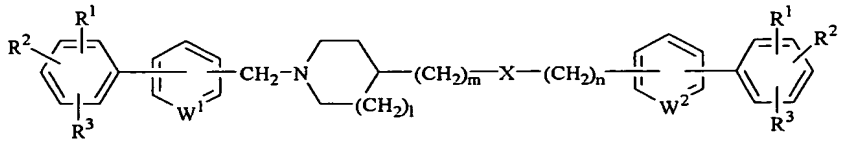
23. The use according to claim 21, wherein R^4 each represents a hydrogen atom, a C_1-C_8-alkyl group, C_3-C_8-alkenyl group, C_3-C_8-alkynyl group, substituted or unsubstituted C_6-C_{14}-aryl group, substituted or unsubstituted heteroaryl group having 5- or 6-membered ring containing 1-4 nitrogen atoms, substituted or unsubstituted C_6-C_{14}-aryl-C_1-C_6-alkyl group, or C_1-C_6-alkyl group having heteroaryl group having 5- or 6-membered ring containing 1-4 nitrogen atoms.

24. The use according to claim 23, wherein in R^4, the substituent of an aryl group, an aryl group of aralkyl group, heteroaryl group, or heteroaryl group of heteroaralkyl group is 1-3 groups selected from the group consisting of alkyl group, alkoxy group, alkylthio group, a halogen atom, a nitro group, an amino group, an acetylamino group, trifluoromethyl group and alkylenedioxy group.

25. The use according to claim 21, wherein the active ingredient is
4-[N-(4-methoxyphenyl)-N-[[5-(3,4,5-trimethoxyphenyl)pyridine-3-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)pyridine-4-yl]methyl]piperidine;
4-[N-(3,5-dimethoxyphenyl)-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;
4-[N-(3,4-methylenedioxyphenyl)-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;
4-[N-methyl-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;

4-[N-(4-(methylthio)phenyl)-N-[[5-(3,4,5-tromethoxyphenyl)piridine-3-yl]methyl] amino]-1-[[2-(3,4,5-tromethoxyphenyl)piridine-4-yl]methyl]piperidine; or a salt thereof.

26. Use of a cyclic amine compound represented by the following formula (1):



(1)

wherein,

R^1, R^2 and R^3 each independently represent a hydrogen atom, a halogen atom, or hydroxy, alkyl, halogen-substituted alkyl, alkoxy, alkylthio, carboxyl, alkoxycarbonyl or alkanoyl group;

W^1 and W^2 each independently represent N or CH;

X represents O, NR^4, $CONR^4$ or NR^4CO;

R^4 each represents a hydrogen atom, or an alkyl, alkenyl, alkynyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, substituted or unsubstituted aralkyl, or substituted or unsubstituted heteroaralkyl group; and

l, m and n each represents a number of 0 or 1, or a salt thereof or a solvate thereof for the manufacture of a preventive or therapeutic agent for chronic anemia, renal anemia, aplastic anemia, or pure red cell aplasia.

27. The use according to claim 26, wherein R^1, R^2 and R^3 are each a hydrogen atom, a halogen atom, a hydroxy group, a C_1-C_8-alkyl group, a halogen-substituted C_1-C_8-alkyl, an alkoxy group having a C_1-C_8-alkyl group, an alkylthio group having a C_1-C_8-alkyl group, a carboxyl group, an alkoxycarbonyl group having a C_1-C_6-alkyl group, or an alkanoyl group having a C_1-C_6-alkyl group.

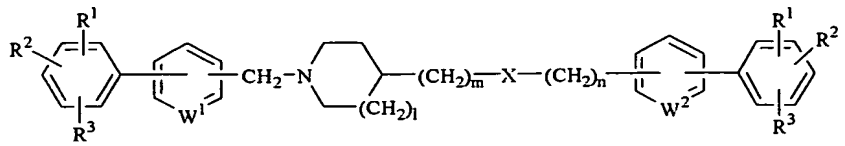
28. The use according to claim 26, wherein R^4 each represents a hydrogen atom, a C_1-C_8-alkyl group, C_3-C_8-alkenyl group, C_3-C_8-alkynyl group, substituted or unsubstituted C_6-C_{14}-aryl group, substituted or unsubstituted heteroaryl group having 5- or 6-membered ring containing 1-4 nitrogen atoms, substituted or unsubstituted C_6-C_{14}-aryl-C_1-C_6-alkyl group, or C_1-C_6-alkyl group having heteroaryl group having 5- or 6-membered ring containing 1-4 nitrogen atoms.

29. The use according to claim 28, wherein in R^4, the substituent of an aryl group, an aryl group of aralkyl group, heteroaryl group, or heteroaryl group of heteroaralkyl group is 1-3 groups selected from the group consisting of alkyl group, alkoxy group, alkylthio group, a halogen atom, a nitro group, an amino group, an acetylamino group, trifluoromethyl group and alkylenedioxy group.

30. The use according to claim 21, wherein the active ingredient is
4-[N-(4-methoxyphenyl)-N-[[5-(3,4,5-trimethoxyphenyl)pyridine-3-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)pyridine-4-yl]methyl]piperidine;
4-[N-(3,5-dimethoxyphenyl)-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;
4-[N-(3,4-methylenedioxyphenyl)-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;
4-[N-methyl-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5 trimethoxyphenyl)piridine-4-yl]methyl]piperidine;
4-[N-(4-(methylthio)phenyl)-N-[[5-(3,4,5-tromethoxyphenyl)piridine-3-yl]methyl]amino]-1-[[2-(3,4,5-tromethoxyphenyl)piridine-4-yl]methyl]piperidine; or a salt thereof.

31. A method of treating pathological conditions caused by reduced production of erythropoietin, comprising administering an effective amount of a cyclic amine

compound represented by the following formula (1):



(1)

wherein,

R^1, R^2 and R^3 each independently represent a hydrogen atom, a halogen atom, or hydroxy, alkyl, halogen-substituted alkyl, alkoxy, alkylthio, carboxyl, alkoxycarbonyl or alkanoyl group;

W^1 and W^2 each independently represent N or CH;

X represents O, NR^4, $CONR^4$ or NR^4CO;

R^4 each represents a hydrogen atom, or an alkyl, alkenyl, alkynyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, substituted or unsubstituted aralkyl, or substituted or unsubstituted heteroaralkyl group; and

l, m and n each represents a number of 0 or 1, or a salt thereof or a solvate thereof.

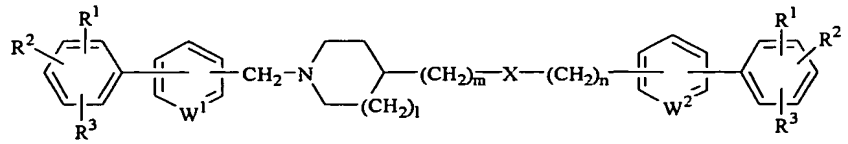
32. The method according to claim 31, wherein R^1, R^2 and R^3 are each a hydrogen atom, a halogen atom, a hydroxy group, a C_1-C_8-alkyl group, a halogen-substituted C_1-C_8-alkyl, an alkoxy group having a C_1-C_8-alkyl group, an alkylthio group having a C_1-C_8-alkyl group, a carboxyl group, an alkoxycarbonyl group having a C_1-C_6-alkyl group, or an alkanoyl group having a C_1-C_6-alkyl group.

33. The method according to claim 31, wherein R^4 each represents a hydrogen atom, a C_1-C_8-alkyl group, C_3-C_8-alkenyl group, C_3-C_8-alkynyl group, substituted or unsubstituted C_6-C_{14}-aryl group, substituted or unsubstituted heteroaryl group having 5- or 6-membered ring containing 1-4 nitrogen atoms, substituted or unsubstituted C_6-C_{14}-aryl-C_1-C_6-alkyl group, or C_1-C_6-alkyl group having heteroaryl group having 5- or 6-membered ring containing 1-4 nitrogen atoms.

34. The method according to claim 33, wherein in R^4, the substituent of an aryl group, an aryl group of aralkyl group, heteroaryl group, or heteroaryl group of heteroaralkyl group is 1-3 groups selected from the group consisting of alkyl group, alkoxy group, alkylthio group, a halogen atom, a nitro group, an amino group, an acetylamino group, trifluoromethyl group and alkylenedioxy group.

35. The method according to claim 31, wherein the active ingredient is 4-[N-(4-methoxyphenyl)-N-[[5-(3,4,5-trimethoxyphenyl)pyridine-3-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)pyridine-4-yl]methyl]piperidine;
4-[N-(3,5-dimethoxyphenyl)-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;
4-[N-(3,4-methylenedioxyphenyl)-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;
4-[N-methyl-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;
4-[N-(4-(methylthio)phenyl)-N-[[5-(3,4,5-tromethoxyphenyl)piridine-3-yl]methyl]amino]-1-[[2-(3,4,5-tromethoxyphenyl)piridine-4-yl]methyl]piperidine; or a salt thereof.

36. A method of treating anemia, comprising administering an effective amount of a cyclic amine compound represented by the following formula (1):



(1)

wherein,

R^1, R^2 and R^3 each independently represent a hydrogen atom, a halogen atom, or

hydroxy, alkyl, halogen-substituted alkyl, alkoxy, alkylthio, carboxyl, alkoxycarbonyl or alkanoyl group;

W^1 and W^2 each independently represent N or CH;

X represents O, NR^4, $CONR^4$ or NR^4CO;

R^4 each represents a hydrogen atom, or an alkyl, alkenyl, alkynyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, substituted or unsubstituted aralkyl, or substituted or unsubstituted heteroaralkyl group; and

l, m and n each represents a number of 0 or 1, or a salt thereof or a solvate thereof.

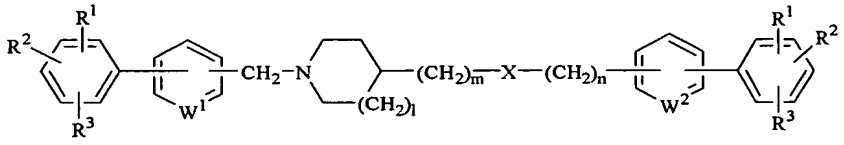
37. The method according to claim 36, wherein R^1, R^2 and R^3 are each a hydrogen atom, a halogen atom, a hydroxy group, a C_1-C_8-alkyl group, a halogen-substituted C_1-C_8-alkyl, an alkoxy group having a C_1-C_8-alkyl group, an alkylthio group having a C_1-C_8-alkyl group, a carboxyl group, an alkoxycarbonyl group having a C_1-C_6-alkyl group, or an alkanoyl group having a C_1-C_6-alkyl group.

38. The method according to claim 36, wherein R^4 each represents a hydrogen atom, a C_1-C_8-alkyl group, C_3-C_8-alkenyl group, C_3-C_8-alkynyl group, substituted or unsubstituted C_6-C_{14}-aryl group, substituted or unsubstituted heteroaryl group having 5- or 6-membered ring containing 1-4 nitrogen atoms, substituted or unsubstituted C_6-C_{14}-aryl-C_1-C_6-alkyl group, or C_1-C_6-alkyl group having heteroaryl group having 5- or 6-membered ring containing 1-4 nitrogen atoms.

39. The method according to claim 38, wherein in R^4, the substituent of an aryl group, an aryl group of aralkyl group, heteroaryl group, or heteroaryl group of heteroaralkyl group is 1-3 groups selected from the group consisting of alkyl group, alkoxy group, alkylthio group, a halogen atom, a nitro group, an amino group, an acetylamino group, trifluoromethyl group and alkylenedioxy group.

40. The method according to claim 36, wherein the active ingredient is 4-[N-(4-methoxyphenyl)-N-[[5-(3,4,5-trimethoxyphenyl)pyridine-3-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)pyridine-4-yl]methyl]piperidine;
4-[N-(3,5-dimethoxyphenyl)-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;
4-[N-(3,4-methylenedioxyphenyl)-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;
4-[N-methyl-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;
4-[N-(4-(methylthio)phenyl)-N-[[5-(3,4,5-tromethoxyphenyl)piridine-3-yl]methyl]amino]-1-[[2-(3,4,5-tromethoxyphenyl)piridine-4-yl]methyl]piperidine; or a salt thereof.

41. A method of treating chronic anemia, renal anemia, aplastic anemia, or pure red cell aplasia, comprising administering an effective amount of a cyclic amine compound represented by the following formula (1):



(1)

wherein,

R^1, R^2 and R^3 each independently represent a hydrogen atom, a halogen atom, or hydroxy, alkyl, halogen-substituted alkyl, alkoxy, alkylthio, carboxyl, alkoxycarbonyl or alkanoyl group;

W^1 and W^2 each independently represent N or CH;

X represents O, NR^4, $CONR^4$ or NR^4CO;

R^4 each represents a hydrogen atom, or an alkyl, alkenyl, alkynyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, substituted or unsubstituted

aralkyl, or substituted or unsubstituted heteroaralkyl group; and

l, m and n each represents a number of 0 or 1, or a salt thereof or a solvate thereof.

42. The method according to claim 41, wherein R^1, R^2 and R^3 are each a hydrogen atom, a halogen atom, a hydroxy group, a C_1-C_8-alkyl group, a halogen-substituted C_1-C_8-alkyl, an alkoxy group having a C_1-C_8-alkyl group, an alkylthio group having a C_1-C_8-alkyl group, a carboxyl group, an alkoxycarbonyl group having a C_1-C_6-alkyl group, or an alkanoyl group having a C_1-C_6-alkyl group.

43. The method according to claim 41, wherein R^4 each represents a hydrogen atom, a C_1-C_8-alkyl group, C_3-C_8-alkenyl group, C_3-C_8-alkynyl group, substituted or unsubstituted C_6-C_{14}-aryl group, substituted or unsubstituted heteroaryl group having 5- or 6-membered ring containing 1-4 nitrogen atoms, substituted or unsubstituted C_6-C_{14}-aryl-C_1-C_6-alkyl group, or C_1-C_6-alkyl group having heteroaryl group having 5- or 6-membered ring containing 1-4 nitrogen atoms.

44. The method according to claim 43, wherein in R^4, the substituent of an aryl group, an aryl group of aralkyl group, heteroaryl group, or heteroaryl group of heteroaralkyl group is 1-3 groups selected from the group consisting of alkyl group, alkoxy group, alkylthio group, a halogen atom, a nitro group, an amino group, an acetylamino group, trifluoromethyl group and alkylenedioxy group.

45. The method according to claim 41, wherein the active ingredient is
4-[N-(4-methoxyphenyl)-N-[[5-(3,4,5-trimethoxyphenyl)pyridine-3-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)pyridine-4-yl]methyl]piperidine;
4-[N-(3,5-dimethoxyphenyl)-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;
4-[N-(3,4-methylenedioxyphenyl)-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]

methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;

4-[N-methyl-N-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]amino]-1-[[2-(3,4,5-trimethoxyphenyl)piridine-4-yl]methyl]piperidine;

4-[N-(4-(methylthio)phenyl)-N-[[5-(3,4,5-tromethoxyphenyl)piridine-3-yl]methyl] amino]-1-[[2-(3,4,5-tromethoxyphenyl)piridine-4-yl]methyl]piperidine; or a salt thereof.